

## LAWS AND INFORMATION NEEDS FOR LISTING PLANTS

E. LA VERNE SMITH

Conservation of plants and their habitats is an ambitious goal which requires the involvement and interaction of the private sector, academia, and government. While federal involvement alone will not insure achievement of this goal, several pieces of national legislation in the last decade have brought increased attention to its importance. The Endangered Species Act of 1973 (Public Law 93-205) was the first federal endangered species legislation to include protection for plants. Previous national legislation had only affected animal species. The 1973 legislation provided the means for conservation of endangered and threatened species of fish, wildlife, and plants, and the ecosystems upon which they depend. Of special importance for plants was section 12 of the Act which instructed the Smithsonian Institution to compile a report on those plants threatened with extinction and to report their findings to Congress within one year. The actions which followed resulted in the formation of a federal plant conservation program. This paper will attempt to review these actions and discuss the information and interaction needed from botanists and conservationists to further plant conservation.

The 1973 Act authorized the Department of Interior to carry out the Act, and this responsibility was delegated to the U.S. Fish and Wildlife Service (hereinafter referred to as the Service). Therefore it is the objective of the Service's Office of Endangered Species to develop a list of taxa, both plants and animals, which are in danger of extinction in their natural habitats and to carry out programs for their conservation. The Act provides two possible categories for listing, Endangered and Threatened. These are defined in section 3 of the Act as follows:

*Endangered* — any species which is in danger of extinction throughout all or a significant portion of its range, and

*Threatened* — any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Determination of whether a taxon is Endangered or Threatened must be related to one or more of the factors set forth in section 4(a)(1) of the Act, which follow:

- (1) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (2) overutilization for commercial, sporting, scientific, or educational purposes;
- (3) disease or predation;
- (4) the inadequacy of existing regulatory mechanisms; or
- (5) other natural or manmade factors affecting its continued existence.

The decision to list a species as Endangered or Threatened is made by the Director of the U.S. Fish and Wildlife Service under authority delegated by the Secretary of Interior.

The listing process is a lengthy one with which few people outside the Office of Endangered Species are truly familiar. The process usually starts by either internal initiative or by someone petitioning the Service to list specific taxa under section 4(c)(2) of the Act. After initial consideration of the best available scientific and commercial data and if the taxon appears to warrant further consideration, then either a notice of review or a proposal to add the species to the list is prepared. The procedures for both notices of review and proposals incorporate comment periods and encourage involvement of the affected states, federal agencies, and interested persons and organizations. The notice of review is often not necessary when adequate data is available for a proposal. After a plant is proposed, all comments are reviewed and summarized and a decision is made concerning whether a final rulemaking determining the taxon to be either Endangered or Threatened should be prepared. Designation of a species' critical habitat under the provisions of section 7 of the Act follows basically the same procedures. The Endangered Species Act Amendments of 1978 require that final determination of a species' critical habitat, where prudent, be done simultaneously with the final determination of the species' status, and that economic and other relevant impacts be considered in determining critical habitat. If a final rulemaking is prepared and the Director determines the species to be either Endangered or Threatened, then the determination is published in the *Federal Register* and the species is afforded the protection offered by the Act.

Federal actions which resulted in plants being listed under the 1973 Act began with the Smithsonian's report to Congress in 1975. The Service treated the Smithsonian's report, which contained the names of 3,187 plants, as a petition and published the report as a

notice of review in the July 1, 1975 *Federal Register* (U.S. Fish and Wildlife Service, 1975b). One previous notice of review, which contained the names of four plants, had been published in April 1975 (U.S. Fish and Wildlife Service, 1975a) in response to a Wisconsin petition. Later, in 1977 (U.S. Fish and Wildlife Service, 1977c), a third notice involving one plant was published. Based on the information gathered by the Smithsonian and the 1975 notices of review, the Service proceeded with a proposal on June 16, 1976 (U.S. Fish and Wildlife Service, 1976) proposing 1,783 plants to be Endangered. One additional publication (U.S. Fish & Wildlife Service, 1975c) involving plants proposed 45 plant taxa, which appeared on the Convention on International Trade in Endangered Species, as Endangered.

On June 24, 1977 (U.S. Fish and Wildlife Service, 1977a) the final regulations establishing the prohibitions and permit procedures for Endangered and Threatened plants were published and the stage was set for plants to be listed. On August 11, 1977 the first four plants were listed (U.S. Fish and Wildlife Service, 1977b). Since that time (as of June 1979) a total of 24 plants have been listed, 22 Endangered and 2 Threatened (U.S. Fish and Wildlife Service, 1978a, 1978c, 1979a, and 1979b), and for 2 of these plants critical habitat has been determined (U.S. Fish and Wildlife Service, 1978b).

The listing process, which has always been lengthy, was greatly affected by the Endangered Species Act Amendments of 1978. The most publicized effect of the Amendments was the creation of the exemption process and the Endangered Species Committee. The Amendments affect the listing process as well by requiring 1) that critical habitat, where prudent, be determined simultaneously with the species' status; 2) that economic and other impacts be considered in determining critical habitat; 3) that more thorough public notification procedures be employed; and 4) that proposals be withdrawn if not finalized after 2 years (proposals currently over 2 years old must be withdrawn in November 1979, the first anniversary of the passage of the Amendments). These requirements have greatly slowed the listing process for native species. Only 2 native species have been listed from the time the Amendments passed until June, 1979. However, some advantageous changes for plants were included in the Amendments.

What protection is offered plants by the Endangered Species Act

of 1973? This is a frequently asked question and the treatment of plants and animals under the Act does differ. The Endangered Species Act Amendments of 1978 included plants equally in sections 5 and 6 which had previously favored animal species. Section 5 of the Act authorizes the Secretary of Interior and the Secretary of Agriculture (U.S. Forest Service) to acquire land for the purpose of conserving fish, wildlife, and plants. Section 6(c) of the Act, which covers state cooperative agreements, enables the Service to provide financial assistance to states to assist them in carrying out programs for conserving Endangered and Threatened species. Through cooperative agreements, funds are available to states to carry out research, management, and recovery efforts for Endangered and Threatened species. Many states already have such agreements for animals and now the same is possible for plants. Botanists should urge their states to qualify for and to seek cooperative agreements for plants.

Plants and animals have always been equally covered under section 7 of the Act which requires federal agencies, in consultation with the Service, to insure that their actions do not jeopardize the continued existence of any Endangered or Threatened species or result in the adverse modification of their critical habitat. Both plants and animals are equally covered under a new section 4(g) of the Act which requires the development and implementation of recovery plans for Endangered and Threatened species. A recovery plan is a guide to justify, delineate, and schedule actions to restore and secure Endangered and Threatened species as viable, self-sustaining members of their ecosystems. These plans often require species biology research in order to obtain information needed for developing sound management plans. Sections 8 and 9 of the Act do differ in the protection they offer plants versus animals. Plants receive limited coverage under section 8 of the Act, which deals with international cooperation. Section 9 of the Act, which prohibits the taking, possession of illegally taken, and commerce in, Endangered fish and wildlife, only prohibits interstate commerce, import, and export of Endangered plants. Although plants are treated less restrictively than animals in the Act, substantial protection is offered plants and their natural habitats.

The U.S. Fish and Wildlife Service needs reliable and documented information on Endangered and Threatened plants in order to carry out plant conservation programs under the Endangered

Species Act. The listing process requires consideration of the best available scientific and commercial data. Information, such as the species' taxonomy, description, and historical range, is certainly basic for listing and is often available from the literature. Other types of necessary information are often not so easily accessible. A species' present known range, the history of its decline, current population numbers and trends, threats to extant populations, and recommendations for critical habitat boundaries are all necessary to determine its status, and must be obtained from current field studies. A knowledge of the species' habitat, applicable state laws, the ownership and current administration of extant populations, and possible economic or other impacts of listing is necessary for satisfying NEPA (National Environmental Policy Act) and the new economic analysis requirements associated with listing. Although certain categories of information constitute the minimum necessary for listing, other types of information are necessary for plant conservation. Information on various aspects of the species' biology is necessary for the development of management and recovery plans. A more detailed discussion of the information required to use the Endangered Species Act for plant conservation is presented by MacBryde (1979). Status report outlines and information systems have also been developed that researchers can follow in gathering needed information. Several of these are presented in the symposium, "Geographical Data Organization for Rare Plant Conservation", proceedings (Morse & Henifin, 1979). The need for good data has prompted the Service as well as other federal and state agencies to initiate contracts for needed research. The data from these contracts, along with those available from interested botanists and conservationists and the increased interest in species biology research, have resulted in adequate data for a large number of species. For other species, necessary information is not available and further contracts and studies will be required.

As federal programs continue to grant contracts and the Service continues to carry out the provisions of the Endangered Species Act, state agencies and private conservationists must continue to play an important role in the plant conservation effort. If this effort is to be successful, botanists and conservationists must help in many areas, such as educating the public, encouraging strong and effective state and federal legislation, and continuing to carry out needed research.

## ACKNOWLEDGEMENTS

I would like to thank the following people for reviewing this manuscript: Dr. John J. Fay, Dr. Bruce MacBryde, Dr. Wayne Milstead, and Merwin M. Terry, III.

## LITERATURE CITED

- MACBRYDE, B. 1979. Information needed to use the Endangered Species Act for Plant Conservation. *In*: Morse, J.L. and M.S. Henifin (Eds.). 1979. Geographical Data Organization for Rare Plant Conservation. New York Botanical Garden, Bronx, New York.
- MORSE, L. E. & M. S. HENIFIN (Eds.). 1979. Geographical Data Organization for Rare Plant Conservation. New York Botanical Garden, Bronx, New York.
- PUBLIC LAW 93-205. 1973. Endangered Species Act of 1973. 87 Statute 884. 93rd Congress. U.S. Government Printing Office.
- U.S. FISH & WILDLIFE SERVICE. 1975a. [Notice of review] Review of Endangered Species Status. Federal Register **40**(77)[April 21]:17612.
- . 1975b. [Notice of review] Review of Status of Over 3,000 Vascular Plants and Determination of "Critical Habitat". Federal Register **40**(127)[July 1]: 27823-27924.
- . 1975c. [Proposal] Proposed Endangered Status for 216 Species Appearing on Convention on International Trade. Federal Register **40**(188) [September 26]: 44329-44333.
- . 1976. [Proposal] Proposed Endangered Status for some 1700 U.S. Vascular Plant Taxa. Federal Register **41**(117)[June 16]: 24523-24572.
- . 1977a. [Final rule] Prohibitions on Certain Uses of Endangered or Threatened Plants, Permits for Exceptions to Such Prohibitions, and Related Items. Federal Register **42**(122)[June 24]: 32373-32381.
- . 1977b. [Final rule] Determination That Seven California Channel Island Animals and Plants are Either Endangered Species or Threatened Species. Federal Register **42**(155)[August 11]: 40682-40685.
- . 1977c. [Notice of review] American Ginseng; Review of Status. Federal Register **42**(155)[August 11]: 40823.
- . 1978a. [Final rule] Determination that 11 Plant Taxa are Endangered Species and 2 Plant Taxa are Threatened Species. Federal Register **43**(81) [April 26]: 17909-17916.
- . 1978b. [Final rule] Determination of Critical Habitat for Two Endangered California Plants. Federal Register **43**(170)[August 31]: 39041-39044.

- \_\_\_\_\_. 1978c. [Final rule] Determination of Five Plants as Endangered Species. Federal Register **43**(189)[September 28]: 44810-44812.
- \_\_\_\_\_. 1979a. [Final rule] Determination that *Rhododendron chapmanii* is an Endangered Species. Federal Register **44**(80)[April 24]: 24247-24250.
- \_\_\_\_\_. 1979b. [Final rule] Determination that *Echinacea tennesseensis* is an Endangered Species. Federal Register **44**(110)[June 6]: 32603-32605.

OFFICE OF ENDANGERED SPECIES  
U.S. FISH AND WILDLIFE SERVICE  
WASHINGTON, D.C. 20240